

of the author; allotype female, Chicago, August 18, 1932, in collection Arthur Herz; paratypes, all from Chicago, September 1, 1904, August 23, 1932, August 25, 1932, and August 28, 1932, in collections Emil Beer and Arthur Herz.

The allotype female has the reniform a shade paler than the subterminal area, but this is the only one of six specimens in which this is the case. In the other female, the reniform appears darker, yet on close examination, a lighter spot in the middle field is apparent. One male paratype has primaries of a uniform reddish salmon color over all.

OCCURRENCE OF LARVAL AND NYMPHAL STAGES OF THE RABBIT TICK, *HAEMAPHYSALIS* *LEPORIS-PALUSTRIS*, ON WILD BIRDS FROM CAPE COD.¹

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The common rabbit tick, *Haemaphysalis leporis-palustris*, has been reported from a great number of birds. Peters (1936. Bird-Banding 7: 9-27) records this parasite from 46 species of avian hosts in the eastern part of the United States. He reports 11 of these species to be infested in Massachusetts.

At the Austin Ornithological Research Station at North Eastham, Mass., several thousand ground-feeding birds are banded each year. Peters (1933. Bird-Banding 4: 68-75) reported *Haemaphysalis leporis-palustris* taken from an Eastern Fox Sparrow (*Passerella i. iliaca*) at the Station, although no routine search for ticks on these birds was ever made. A nymphal stage was also obtained from the ear of a young Song Sparrow (*Melospiza m. melodia*).

During the period from August 26, 1937, to September 7, 1937, a careful search was made of about 250 ground-feeding birds comprising at least 10 species. The results indicate what might be obtained if an extensive search were to be made of a large series of birds over a longer period. All the records reported here are of ticks collected during the above 12-day period.

Ticks were collected from six species of birds as follows:

¹ From the Austin Ornithological Research Station (Contribution No. 33) and from the Department of Protozoology, Johns Hopkins University School of Hygiene and Public Health.

- (1) Eastern Bob-white (*Colinus v. virginianus*)
2 larvae, 1 nymph
- (1) Catbird (*Dumetella carolinensis*)
2 larvae
- (1) Red-eyed Towhee (*Pipilo e. erythrophthalmus*)
28 larvae, 1 nymph
- (1) Eastern Vesper Sparrow (*Poæcetes g. gramineus*)
10 larvae
- (1) Eastern Chipping Sparrow (*Spizella p. passerina*)
1 larva
- (18) Eastern Song Sparrow (*Melospiza m. melodia*)
95 larvae, 3 nymphs.

The Vesper Sparrow (*Poæcetes g. gramineus*) is the only new host record reported in this paper, and all but the towhee and chipping sparrow have been previously reported to be infested in Massachusetts.

Most of the parasites were collected from the top of the head, a few were attached about the eyes and ears. No ticks were collected from other parts of the body. A total of 134 larvae and 6 nymphs were collected. The greatest number of ticks obtained from a single bird was 29 specimens from a young towhee. With the exception of the song sparrows only young birds were parasitized. Six of the song sparrows were adult birds, the other 12 were young. The average number of ticks on each song sparrow was 5; seven sparrows had only one tick; four of the birds had 3 ticks each; and one sparrow was infested with at least 18 ticks. During the period from August 26 to September 7, 1937, when all of these ticks were collected, 31 song sparrows were carefully examined for ticks. *Haemaphysalis leporis-palustris* was obtained from 18 of these birds, or at least 58 per cent.

The occurrence of such a large number of the early stages of this tick on some of these small birds suggests that these are natural rather than accidental hosts for this parasite. The large percentage of song sparrows infested seems to indicate that the bird serves as a common host for the early stages of *H. leporis-palustris*. Dr. J. Bequaert, of the Harvard Medical School, informs me that the adult stages of this tick are common on the wild rabbits on Cape Cod. In view of the rôle this tick may play in the spread of tularemia and spotted fever, it will be necessary to consider the infestations of ground-feeding birds in any effective measures to control this species of tick.

The author is indebted to Dr. Bequaert for verifying the diagnosis of the ticks reported above.